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(54) IMPROVEMENTS RELATING TO VEHICLE CRASH  
BARRIERS

(71) I, WILLIAM STUART ROBINSON, a British Subject, of 11 Portico Avenue, Eccleston Park, Prescott, Lancashire, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention relates to vehicle crash barriers for use at roadsides and particularly for use at race tracks.

Known crash barriers take various forms. One form which is commonly used on motorways and race tracks is the "Armco" (Registered Trade Mark) barrier. This barrier takes the form of an elongate metal member or a series of such elongate metal members arranged in line in juxtaposition, each member having a substantially M-shaped cross section and being rigidly mounted on posts and arranged substantially parallel with the ground at a height suitable to obstruct and deflect a vehicle. On race tracks, such Armco barriers are arranged at the side of hazardous parts of the circuit both to protect drivers and to protect spectators in the event of a car leaving the track. Also used on race tracks are barriers formed by the stacking of sandbags or by the stacking of bales of straw or hay.

It is an object of the present invention to provide a crash barrier which will absorb at least part of the impact of a vehicle and which is cheap to produce, and which may be used by itself or in conjunction with existing crash barriers.

According to the present invention there is provided a crash barrier for vehicles, comprising one or more flexible plastics material casings, each containing a single bale of compacted glass fibre material.

In a preferred embodiment of the present invention, a bale of compressed glass fibre waste is placed in a polythene bag,

the bag then being sealed e.g. heat sealed, to form the crash barrier. The barrier is rectangular in shape, though any other shapes may be manufactured, e.g. a curved barrier for a corner, and the barrier is preferably about ten foot long allowing for ease of handling. If desired, the length or any other of the dimensions of the barrier may be varied by varying the size of the bale and the casing, though any size of barrier may be constructed by arranging several small barriers in juxtaposition to each other.

A plurality of the crash barriers constructed according to the present invention, may be stacked to form a protective wall at any desired location on a race circuit. Alternatively, the barriers may be mounted on or placed against posts fixed in the ground, or arranged in front and in juxtaposition to existing crash barriers provided on the circuit thus providing a shock absorbent padding for the existing barrier. The use of glass fibre waste filling, besides being inexpensive, also reduces any fire risk due to the barrier.

Although the preferred embodiment of the present invention utilises bales of compressed glass fibre waste, any form of glass fibre material may be used to fill the casing, this being non-inflammable material. Also, any other flexible plastics material e.g. polypropylene or flexible polyvinyl chloride, may be used for the casing instead of polythene, and several layers of plastics material may be used for the casing as opposed to the single layer referred to hereabove.

According to a further aspect of the present invention there is provided a method of manufacturing the crash barrier described hereabove, comprising the steps of compressing glass fibre material into a single bale, locating the bale in a flexible plastics material bag and sealing the open

end of the bag. Preferably, prior to sealing the bag, a vacuum is applied to the interior of the bag to draw the bag against the block thus providing for a snug fit.

5 The present invention will now be further described, by way of example, with reference to the accompanying drawings, in which:—

10 Fig. 1 is a perspective cross sectional view of a preferred embodiment of crash barrier constructed in accordance with the present invention, and

15 Fig. 2 illustrates the preferred embodiment of Fig. 1 in use at the side of a race track.

In Fig. 1 the crash barrier 1 takes the form of a rectangular block having a core 2 made from a bale of compressed glass fibre waste, the core being encased in a polythene bag 3 which is heat sealed along edge 4.

During manufacturing of the crash barrier in Fig. 1, the glass fibre waste is compressed into a bale of the desired length. 25 The bale is then arranged in polythene bag 3 and the opening of the bag is applied to a source of vacuum thus subjecting the interior of the bag to the vacuum and reducing the volume of the bag so that is snugly fits around the bale; the opening 30 then being heat sealed.

Alternatively a casing constructed of any other flexible plastics material e.g. polypropylene or flexible polyvinyl chloride, 35 may be substituted for the polythene bag referred to hereabove.

Fig. 2 illustrates the crash barrier of the present invention in use on the side of a race track, crash barriers according to Fig. 40 1 being stacked to form a protective wall. Alternatively, the crash barriers of the present invention may be used in conjunction with existing crash barriers e.g. Armco (Registered Trade Mark) barriers, to 45 provide an absorbent region for reducing the impact of the vehicle against the rigid existing barrier. Also, as glass fibre material is used for the barrier, the fire

risk due to the barrier is obviated, this being especially important on race tracks 50 where high octane fuel may be spilt in the event of a crash.

#### WHAT I CLAIM IS:—

1. A crash barrier for vehicles comprising one or more flexible plastics material casings, each containing a single bale of compacted glass fibre material. 55

2. A crash barrier as claimed in claim 1, in which the casing is made from polythene or polypropylene. 60

3. A crash barrier as claimed in claim 1 or claim 2, in which the casing is made of several layers of plastics material.

4. A crash barrier as claimed in any of claims 1 to 3, in which the bale is rectangular. 65

5. A crash barrier as claimed in any of claims 1 to 4, in which the crash barrier is located in front of an existing rigid barrier or mounted on or in front of a fixed post. 70

6. A method of manufacturing a crash barrier as claimed in claim 1 comprising the steps of compressing glass fibre material into a single bale, locating the bale in a flexible plastics material bag, and sealing the bag. 75

7. A method as claimed in claim 5, in which a vacuum is applied to the interior of the bag before the bag is sealed. 80

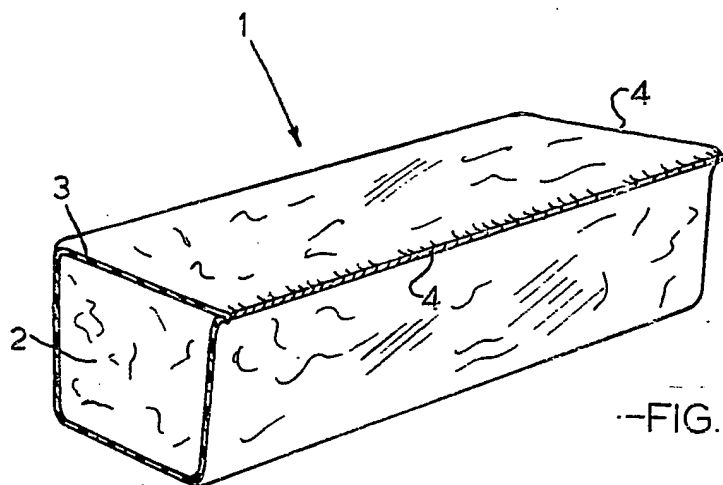
8. A crash barrier for vehicles constructed and arranged substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

9. A method of manufacturing a crash barrier as claimed in claim 8, substantially as hereinbefore described. 85

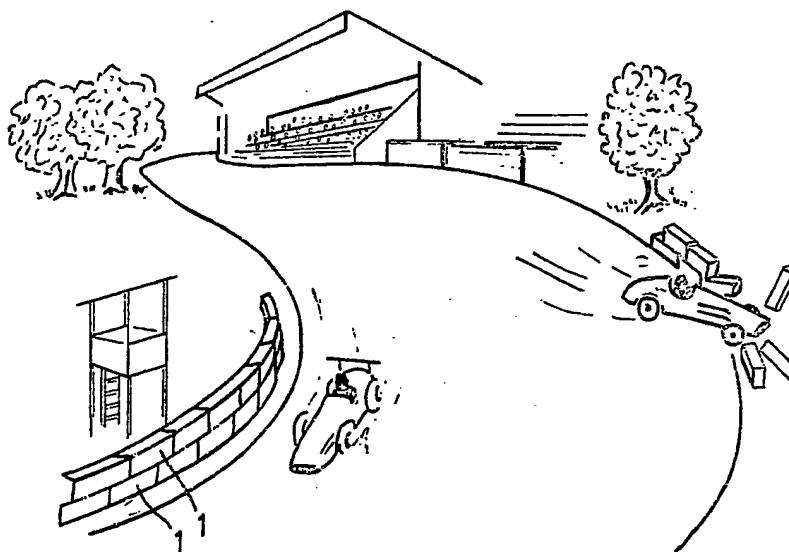
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--FIG.1--



--FIG.2--